# Safety data sheet
## according to Regulation (EC) No 1907/2006, Article 31

Printing date 13.04.2026 Version number 19 (replaces version 18) Revision: 13.04.2026

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**
· **Trade name: Citric acid**
· **SDS number:** CH2234
· **CAS Number:**
5949-29-1

· **EC number:**
201-069-1
· **Registration number** 01-2119457026-42
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Life cycle stages**
IS Use at industrial Sites
F Formulation or re-packing
· **Sector of Use**
SU9 Manufacture of fine chemicals
SU24 Scientific research and development
· **Product category**
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of an intermediary
· **Application of the substance / the mixture** Chemicals products for laboratory

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20
· **Further information obtainable from:**
Q.A / Normative
email: MSDS_CER-SDS@cer.dgroup.it
· **1.4 Emergency telephone number:**
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)
EU Tel : 112


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## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms**



GHS07

· **Signal word** Warning
· **Hazard statements**
H319 Causes serious eye irritation.
· **Precautionary statements**
P264 Wash contaminated body parts thoroughly after handling.
P280 Wear eye protection / face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable
· **vPvB:** Not applicable
· **Determination of endocrine-disrupting properties** Not applicable

## SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**
CAS: 5949-29-1 Citric acid

· **Identification number(s)**

· **EC number:** 201-069-1

## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Involve doctor immediately.
· **After inhalation:** Supply fresh air; consult a doctor in case of complaints.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.
If skin irritation continues, consult a doctor.

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· ***After eye contact:***
*Rinse opened eye for several minutes under running water.*
*Seek immediate medical advice.*
· ***After swallowing:*** *If some symptoms persist seek for medical advice.*
· ***Information for doctor:*** *Show the doctor this Material Safety Data Sheet.*
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***4.3 Indication of any immediate medical attention and special treatment needed***
*No further relevant information available.*

## SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:***
*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
· ***5.2 Special hazards arising from the substance or mixture*** *Carbon monoxide and carbon dioxide*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Do not inhale gases in case or fire or combustion.*
· ***Additional information*** *Keep receptacles cool with water spray.*

## SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*
*Ensure adequate ventilation*
· ***6.2 Environmental precautions:***
*Do not allow to penetrate the ground/soil.*
*Do not allow to enter sewers/ surface or ground water.*
· ***6.3 Methods and material for containment and cleaning up:***
*Pick up mechanically.*
*Ensure adequate ventilation.*
*Provide suction extractors if dust is formed.*
· ***6.4 Reference to other sections***
*See Section 7 for information on safe handling.*
*See Section 8 for information on personal protection equipment.*
*See Section 13 for disposal information.*

## SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
*Ensure good ventilation/exhaustion at the workplace.*
*Prevent formation of dust.*
*Provide suction extractors if dust is formed.*
· ***Information about fire - and explosion protection:*** *The product is not flammable.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *No special requirements.*
· ***Information about storage in one common storage facility:*** *Not required*
· ***Further information about storage conditions:*** *None.*

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· ***7.3 Specific end use(s)*** *No further relevant information available.*

## SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Ingredients with limit values that require monitoring at the workplace:*** *TLV not established.*

| · ***PNECs*** | |
|---|---|
| *PNEC (Fresh water)* | *0.44 mg/l* |
| *PNEC (Freshwater sediment)* | *34.6 mg/kg* |
| *PNEC (Marine water)* | *0.044 mg/l* |
| *PNEC (Seawater sediment)* | *3.46 mg/l* |
| *PNEC (STP)* | *1,000 mg/l* |
| *PNEC (Soil)* | *33.1 mg/kg* |

· ***Additional information:*** *The lists valid during the making were used as basis.*

· ***8.2 Exposure controls***
· ***Appropriate engineering controls*** *No further data; see section 7.*
· ***Individual protection measures, such as personal protective equipment***
· ***General protective and hygienic measures:***
*The usual precautionary measures are to be adhered to when handling chemicals.*
*Keep away from foodstuffs, beverages and feed.*
*Avoid contact with the eyes.*
· ***Respiratory protection:***
*Use suitable respiratory protective device only when aerosol or mist is formed.*
*Filter P2*
*Filter P1*
· ***Hand protection***
*The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.*
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
*Rubber gloves*
· ***Material of gloves***
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*
*Fluorocarbon rubber (Viton)*
*Recommended thickness of the material: ≥ 0.5 mm*
*Butyl rubber, BR*
*Thin, disposable gloves in PVC or PE*
*Nitrile rubber, NBR*
*Natural rubber, NR*
*Chloroprene rubber, CR*
*PVC gloves*
· ***Penetration time of glove material***
*The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.*
· ***Eye/face protection***



*Tightly sealed goggles*

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· ***Environmental exposure controls***
*In case of unintended release of the product: See section 6 of the Safety Data Sheet.*
· ***Risk management measures*** *Keep good industrial hygiene.*

## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · ***9.1 Information on basic physical and chemical properties*** | |
| · ***Molecular weight*** | *210.14 g* |
| · ***Physical state*** | *Solid* |
| · ***Colour:*** | *White* |
| · ***Odour:*** | *Odourless* |
| · ***Odour threshold:*** | *Not determined* |
| · ***Melting point/freezing point:*** | *135-152 °C* |
| · ***Boiling point or initial boiling point and boiling range*** | *Undetermined* |
| · ***Flammability*** | *Product is not flammable.* |
| · ***Lower and upper explosion limit*** | |
| · ***Lower:*** | *Not determined* |
| · ***Upper:*** | *Not determined* |
| · ***Flash point:*** | *100 °C* |
| · ***Auto-ignition temperature:*** | *1,010 °C* |
| · ***Decomposition temperature:*** | *Not determined* |
| · ***Viscosity:*** | |
| · ***Kinematic viscosity*** | *Not applicable* |
| · ***Dynamic:*** | *Not applicable* |
| · ***Solubility*** | |
| · ***water at 20 °C:*** | *600 g/l* |
| · ***Partition coefficient n-octanol/water (log value)*** | *Not determined* |
| · ***Vapour pressure:*** | *Not applicable* |
| · ***Density and/or relative density*** | |
| · ***Density at 20 °C:*** | *1.542 g/cm³* |
| · ***Relative density*** | *Not determined* |
| · ***Bulk density:*** | *900 kg/m³* |
| · ***Vapour density*** | *Not applicable* |
| · ***Particle characteristics*** | *See section 3.* |
| · ***9.2 Other information*** | |
| · ***Appearance:*** | |
| · ***Form:*** | *Solid* |
| · ***Important information on protection of health and environment, and on safety.*** | |
| · ***Ignition temperature:*** | *Not determined* |
| · ***Explosive properties:*** | *Product does not present an explosion hazard.* |
| · ***Molecular formula*** | *C6H8O7.H2O* |
| · ***Molecular weight*** | *210.14 g/mol* |
| · ***Change in condition*** | |
| · ***Evaporation rate*** | *Not applicable.* |
| · ***Information with regard to physical hazard classes*** | |
| · ***Explosives*** | *Void* |
| · ***Flammable gases*** | *Void* |
| · ***Aerosols*** | *Void* |
| · ***Oxidising gases*** | *Void* |
| · ***Gases under pressure*** | *Void* |

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| | |
|---|---|
| · **Flammable liquids** | Void |
| · **Flammable solids** | Void |
| · **Self-reactive substances and mixtures** | Void |
| · **Pyrophoric liquids** | Void |
| · **Pyrophoric solids** | Void |
| · **Self-heating substances and mixtures** | Void |
| · **Substances and mixtures, which emit flammable gases in contact with water** | Void |
| · **Oxidising liquids** | Void |
| · **Oxidising solids** | Void |
| · **Organic peroxides** | Void |
| · **Corrosive to metals** | Void |
| · **Desensitised explosives** | Void |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** See 10.3
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions**
Can react violently with oxygen rich (oxidizing) material. Danger of Explosion.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:**
hydrogen peroxide.
Strong bases.
reducing products.
· **10.6 Hazardous decomposition products:** Carbon monoxide, Carbon dioxide.

## SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

| · **LD/LC50 values relevant for classification:** | | |
|---|---|---|
| Oral | LD50 | 5,400 mg/kg (rat) |
| Dermal | LD50 | >2,000 mg/kg (rat) |

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Strong irritant with the danger of severe eye injury.
Causes serious eye irritation.
· **Ingestion:** It can be harmfull if swallowed.
· **Inhalation:** May be harmful if inhaled.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **Other information (about experimental toxicology):** No further relevant information available.

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· ***11.2 Information on other hazards***
· ***Endocrine disrupting properties*** *Substance is not listed.*

## SECTION 12: Ecological information

· ***12.1 Toxicity***
· ***Aquatic toxicity:*** *No further relevant information available.*
· ***12.2 Persistence and degradability*** *No further relevant information available.*
· ***Method***
· ***Ecological information*** *Not available*
· ***12.3 Bioaccumulative potential*** *No further relevant information available.*
· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable*
· ***vPvB:*** *Not applicable*
· ***12.6 Endocrine disrupting properties***
*The product does not contain substances with endocrine disrupting properties.*
· ***12.7 Other adverse effects***
· ***Additional ecological information:***
· ***General notes:***
*Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water*
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

* 
## SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
*Reutilise if possible or contact a waste processors for recycling or safe disposal.*
· ***Waste disposal key:***
*The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.*
*2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.*
*Directive 2008/98/EC of the european parliament and of the council of 18 November 2008, in ist latest valid version.*

| · ***European waste catalogue*** | |
|---|---|
| *07 00 00* | *WASTES FROM ORGANIC CHEMICAL PROCESSES* |
| *07 01 00* | *wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals* |
| *07 01 99* | *wastes not otherwise specified* |
| *HP4* | *Irritant - skin irritation and eye damage* |

· ***Uncleaned packaging:***
*The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.*
*Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.*
· ***Recommendation:***
*Disposal must be made according to official regulations.*
*Wash with solvents to be incinerated.*

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*Packagings that may not be cleansed are to be disposed of in the same manner as the product.*
· ***Recommended cleansing agents:*** *Water, if necessary together with cleansing agents.*

## SECTION 14: Transport information

| | |
|---|---|
| · ***14.1 UN number or ID number*** | |
| · ***ADR/RID, ADN, IMDG, IATA*** | *Void* |
| · ***14.2 UN proper shipping name*** | |
| · ***ADR/RID, ADN, IMDG, IATA*** | *Void* |
| · ***14.3 Transport hazard class(es)*** | |
| · ***ADR/RID, ADN, IMDG, IATA*** | |
| · ***Class*** | *Void* |
| · ***14.4 Packing group*** | |
| · ***ADR/RID, IMDG, IATA*** | *Void* |
| · ***14.5 Environmental hazards:*** | |
| · ***Marine pollutant:*** | *No* |
| · ***14.6 Special precautions for user*** | *Not applicable* |
| · ***14.7 Maritime transport in bulk according to IMO instruments*** | *Not applicable* |
| · ***UN "Model Regulation":*** | *Void* |

## SECTION 15: Regulatory information

· ***15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture***
· ***SARA Section 355 (extremely hazardous substances)*** *Substance is not listed.*
· ***SARA Section 313 (specific toxic chemical listings)*** *Substance is not listed.*
· ***Prop 65 - Chemicals known to cause cancer*** *Substance is not listed.*

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *Substance is not listed.*
· ***REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)*** *Substance is not listed.*
· ***LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)*** *Substance is not listed.*
· ***DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II***
*Substance is not listed.*
· ***REGULATION (EU) 2024/590 on substances that deplete the ozone layer*** *Substance is not listed.*
· ***National regulations:***
· ***Waterhazard class:*** *Water hazard class 1 (Assessment by list): slightly hazardous for water.*

· ***Other regulations, limitations and prohibitive regulations***
· ***Substances of very high concern (SVHC) according to REACH, Article 57*** *Substance is not listed.*
· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has been carried out.*

## SECTION 16: Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· ***Department issuing SDS:*** *Q.A./Normative*

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· ***Date of previous version:*** *06.04.2021*
· ***Version number of previous version:*** *18*
· ***Abbreviations and acronyms:***
*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
*ICAO: International Civil Aviation Organisation*
*RCR : Risk Characterisation Ratio*
*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*
*IMDG: International Maritime Code for Dangerous Goods*
*DOT: US Department of Transportation*
*IATA: International Air Transport Association*
*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
*EINECS: European Inventory of Existing Commercial Chemical Substances*
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*
*PNEC: Predicted No-Effect Concentration (REACH)*
*LC50: Lethal concentration, 50 percent*
*LD50: Lethal dose, 50 percent*
*PBT: Persistent, Bioaccumulative and Toxic*
*SVHC: Substances of Very High Concern*
*vPvB: very Persistent and very Bioaccumulative*
*ATE: Acute toxicity estimate values*
*Eye Irrit. 2: Serious eye damage/eye irritation – Category 2*
· ***Sources***
*Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in the latest valid version.*
*Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.*
*Globally Harmonized System, GHS*
*ADR/RID, IMDG, IATA*
*PubChem : an open chemistry database at the National Institutes of Health (NIH)*
*ECHA : European CHemicals Agency*
*GESTIS : Information system on hazardous substances of the German Social Accident Insurance*
· **** Data compared to the previous version altered.*** .



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## Annex: Exposure scenario 1

· ***Short title of the exposure scenario*** *Chemicals products for laboratory*
· ***Sector of Use*** *Industrial use.*
· ***Process category***
*PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.*
*PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions*
*PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition*
*PROC4 Chemical production where opportunity for exposure arises*
*PROC5 Mixing or blending in batch processes*
*PROC7 Industrial spraying*
*PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities*
*PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities*
*PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)*
*PROC13 Treatment of articles by dipping and pouring*
*PROC14 Tabletting, compression, extrusion, pelletisation, granulation*
*PROC15 Use as laboratory reagent*
*PROC19 Manual activities involving hand contact*
· ***Environmental release category***
*ERC1 Manufacture of the substance*
*ERC2 Formulation into mixture*
*ERC3 Formulation into solid matrix*
*ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)*
*ERC7 Use of functional fluid at industrial site*
· ***Description of the activities / processes covered in the Exposure Scenario***
*See section 1 of the annex to the Safety Data Sheet.*
· ***Conditions of use*** *Customary application according to section 1.*
· ***Duration and frequency*** *5 workdays/week.*
· ***Physical parameters***
*The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.*
· ***Physical state***
*Solid*
*Not applicable*
· ***Concentration of the substance in the mixture*** *Raw material.*
· ***Used amount per time or activity*** *According to directions for use.*
· ***Other operational conditions*** *Observe the general safety regulations when handling chemicals.*
· ***Other operational conditions affecting environmental exposure***
*Observe section 6 of the Safety Data Sheet (Accidental release measures).*
· ***Other operational conditions affecting worker exposure*** *Avoid contact with eyes.*
· ***Risk management measures***
· ***Worker protection***
· ***Organisational protective measures***
*Keep good industrial hygiene.*
*Ensure that activities are executed by specialists or authorised personnel only.*
*Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.*
*The appropriate type of chemical protective glove has to be selected specifically, depending on the concentration and quantity of hazardous substances in the workplace.*
*Provide sufficient washing facilities.*

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· ***Technical protective measures***
*No special measures required.*
*Ensure good ventilation/exhaustion at the workplace.*
*Any unavoidabledeposit of dust must be regularly removed.*
· ***Personal protective measures***
*Avoid contact with the skin.*
*Avoid contact with the eyes.*
*Tightly sealed goggles*
*Use suitable respiratory protective device only when aerosol or mist is formed.*
*Filter P2*
*Filter P1*
*The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.*
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
*Rubber gloves*
*Tightly sealed goggles*
*Do not inhale dust / smoke / mist.*
*The usual precautionary measures are to be adhered to when handling chemicals.*
*Detailed measures on hand protection according to Safety Data Sheet, section 8.*
· ***Environmental protection measures***
· ***Notes*** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*
· ***Disposal measures*** *Ensure that waste is collected and contained.*
· ***Disposal procedures***
*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
· ***Waste type*** *Partially emptied and uncleaned packaging*
· ***Guidance for downstream users***
*Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.*



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## Annex: Exposure scenario 2

· ***Short title of the exposure scenario***
· ***Sector of Use*** *Industrial use.*
· ***Process category***
*PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.*
*PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions*
*PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition*
*PROC4 Chemical production where opportunity for exposure arises*
*PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities*
· ***Environmental release category*** *ERC1 Manufacture of the substance*
· ***Description of the activities / processes covered in the Exposure Scenario***
*See section 1 of the annex to the Safety Data Sheet.*
· ***Conditions of use*** *Customary application according to section 1.*
· ***Duration and frequency*** *Duration of exposure per year : 350 d*
· ***Physical parameters***
*The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.*
· ***Physical state***
*Solid*
*Not applicable*
· ***Concentration of the substance in the mixture*** *Raw material.*
· ***Other operational conditions*** *Observe the general safety regulations when handling chemicals.*
· ***Other operational conditions affecting environmental exposure*** *No special measures required.*
· ***Other operational conditions affecting worker exposure*** *Avoid contact with eyes.*
· ***Risk management measures***
· ***Worker protection***
· ***Organisational protective measures***
*Keep good industrial hygiene.*
*Ensure that activities are executed by specialists or authorised personnel only.*
*Provide sufficient washing facilities.*
· ***Technical protective measures***
*No special measures required.*
*Ensure good ventilation/exhaustion at the workplace.*
*Any unavoidabledeposit of dust must be regularly removed.*
· ***Personal protective measures***
*Do not inhale dust / smoke / mist.*
*Avoid contact with the eyes.*
*Tightly sealed goggles*
*The usual precautionary measures are to be adhered to when handling chemicals.*
*Detailed measures on hand protection according to Safety Data Sheet, section 8.*
*Use suitable respiratory protective device only when aerosol or mist is formed.*
*Filter P2*
*The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.*
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
*Protective gloves*
*Rubber gloves*
*Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.*

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# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

*Printing date 13.04.2026* *Version number 19 (replaces version 18)* *Revision: 13.04.2026*

***Trade name: Citric acid***

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*Protective work clothing*
*Acid resistant protective clothing*

· ***Environmental protection measures***
· ***Notes*** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*
· ***Disposal measures*** *Ensure that waste is collected and contained.*
· ***Disposal procedures***
*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
· ***Waste type*** *Partially emptied and uncleaned packaging*
· ***Exposure estimation***
· ***Worker (dermal)***
*The highest dermal exposure to be expected is 0.69 mg / kg / day.*
*The exposure estimation was carried out in accordance with ECETOC TRA.*
· ***Worker (inhalation)***
*The highest inhalative exposure to be expected is 0.36 ppm.*
*The exposure estimation was carried out in accordance with ECETOC TRA.*
· ***Guidance for downstream users***
*Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.*



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# Safety data sheet
**according to Regulation (EC) No 1907/2006, Article 31**

*Printing date 13.04.2026* *Version number 19 (replaces version 18)* *Revision: 13.04.2026*

***Trade name: Citric acid***

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## Annex: Exposure scenario 3

· ***Short title of the exposure scenario*** *Formulation or re-packing*
· ***Sector of Use*** *Industrial use.*
· ***Process category***
*PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.*
*PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions*
*PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition*
*PROC4 Chemical production where opportunity for exposure arises*
*PROC5 Mixing or blending in batch processes*
*PROC7 Industrial spraying*
*PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities*
*PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities*
*PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)*
*PROC13 Treatment of articles by dipping and pouring*
*PROC14 Tabletting, compression, extrusion, pelletisation, granulation*
*PROC15 Use as laboratory reagent*
*PROC19 Manual activities involving hand contact*
· ***Environmental release category***
*ERC1 Manufacture of the substance*
*ERC2 Formulation into mixture*
*ERC3 Formulation into solid matrix*
*ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)*
· ***Description of the activities / processes covered in the Exposure Scenario***
*See section 1 of the annex to the Safety Data Sheet.*
· ***Conditions of use*** *Customary application according to section 1.*
· ***Duration and frequency*** *Duration of exposure per year : 300 d*
· ***Physical parameters***
*The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.*
· ***Physical state***
*Solid*
*Not applicable*
· ***Concentration of the substance in the mixture*** *Raw material.*
· ***Other operational conditions*** *Observe the general safety regulations when handling chemicals.*
· ***Other operational conditions affecting environmental exposure***
*Observe section 6 of the Safety Data Sheet (Accidental release measures).*
· ***Other operational conditions affecting worker exposure*** *Avoid contact with eyes.*
· ***Risk management measures***
· ***Worker protection***
· ***Organisational protective measures***
*Keep good industrial hygiene.*
*Ensure that activities are executed by specialists or authorised personnel only.*
*Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.*
*Provide sufficient washing facilities.*
· ***Technical protective measures***
*No special measures required.*
*Ensure good ventilation/exhaustion at the workplace.*
*Any unavoidabledeposit of dust must be regularly removed.*

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# Safety data sheet
## according to Regulation (EC) No 1907/2006, Article 31



**Trade name: Citric acid**

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· ***Personal protective measures***
*Do not inhale dust / smoke / mist.*
*Avoid contact with the eyes.*
*Tightly sealed goggles*
*The usual precautionary measures are to be adhered to when handling chemicals.*
*Detailed measures on hand protection according to Safety Data Sheet, section 8.*
*Use suitable respiratory protective device only when aerosol or mist is formed.*
*Filter P2*
*The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.*
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
*Protective gloves*
*Rubber gloves*
*Avoid direct contact with the chemical/ the product/ the preparation by organisational measures.*
*Protective work clothing*
*Acid resistant protective clothing*
· ***Environmental protection measures***
· ***Notes*** *In case of unintended release of the product: See section 6 of the Safety Data Sheet.*
· ***Disposal measures*** *Ensure that waste is collected and contained.*
· ***Disposal procedures***
*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
· ***Waste type*** *Partially emptied and uncleaned packaging*
· ***Exposure estimation***
· ***Worker (dermal)***
*The highest dermal exposure to be expected is 14.1 mg / kg / day.*
*The exposure estimation was carried out in accordance with ECETOC TRA.*
· ***Worker (inhalation)***
*The highest inhalative exposure to be expected is 1.43 ppm.*
*The exposure estimation was carried out in accordance with ECETOC TRA.*
· ***Guidance for downstream users***
*Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.*